

Translation

PATENT COOPERATION TREATY

PCT/CH2003/000686



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference TP 033-P/WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/CH2003/000686	International filing date (day/month/year) 22 October 2003 (22.10.2003)	Priority date (day/month/year) 18 December 2002 (18.12.2002)
International Patent Classification (IPC) or national classification and IPC C08G 63/80		
Applicant BÜHLER AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 27 April 2004 (27.04.2004)	Date of completion of this report 15 December 2004 (15.12.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/CH2003/000686

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
 pages _____ 1-18 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____ 1-25 _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the drawings:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.
PCT/CH 03/00686

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-6, 8-16, 19, 22, 23	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-6, 8-16, 19, 22, 23	NO
Industrial applicability (IA)	Claims	1-6, 8-16, 19, 22, 23	YES
	Claims		NO

2. Citations and explanations

I This report makes reference to the following documents cited in the search report:

D1: DE-A 10 042 476

D2: WO 01/42334

II Claims 7, 17, 18, 20, 21, 24 and 25 are so unclear as to render their examination for novelty and/or inventive step impossible. The essential features of these claims refer to "equivalent polyesters of conventional manufacture" and "conventionally produced hollow bodies". Since there are many manufacturers of bottle-quality PET and coPET, who use their own processes and make their own selections of reactants and auxiliaries, these phrases are unclear and therefore unsuitable for characterizing a process or a material. If it cannot be established how a process or product differs from the prior art, examination is not possible.

It is assumed that claim 23 relates to a polyester, since a back-reference is made to product claims.

III The subject matter of independent claims 1 and 19

does not involve an inventive step in light of D1 in combination with D2 and/or the technical knowledge of a person skilled in the art.

D1 represents the closest prior art and discloses the preparation of polyester granules with a diameter of <2 mm by forming droplets from a precondensate having an intrinsic viscosity (IV) of between 0.1 and 0.4 dl/g obtained by melt-phase polymerization to give at least part-crystallized drop-shaped or spherical particles. The polyester may be PET and the particles are then subjected to solid state polymerization (see D1, claims 1, 5 and 13 and paragraphs [0001], [0030], [0043] and [0055]).

D1 does not disclose that solid state polycondensation yields a polyester with IV >0.65 dl/g or that the polyester is processed to give hollow bodies. Thus, the subject matter of claims 1 and 19 is formally novel.

The problem to be addressed by the present invention consists in using the process according to D1 to produce polyesters suitable for the manufacture of bottles.

D2 teaches that the IV of polyesters suitable for the manufacture of bottles is >0.70 dl/g and that said IV can be achieved by solid state polymerization of a precondensate having an IV <0.4 dl/g. A person skilled in the art would readily combine the teaching of D1 with that of D2, thereby arriving at the subject matter of claims 1 and 19.

Although D2 excludes droplet formation, this statement pertains only to specialized copolyesters. Moreover, a single statement is not sufficient to justify a preconception.

- IV Dependent claims 2-6, 8-16, 22 and 23 do not contain any features which, in conjunction with the subject matter of claim 1 or claim 19, would substantiate an inventive step.